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ABSTRACT

This report describes a program for increasing student motivation as demonstrated by a higher percentage of completed homework and maximum voluntary class participation. The targeted population consisted of third, sixth, and tenth grade students from low to middle income families located in northern Illinois. The problem of low motivation was documented by student surveys, teacher journal entries, and homework checklists. Possible causes may be the limited educational background of parents, differing cultural values, and lack of parental support and involvement. A literature review suggested that low motivation in the schools may be due to students' psychological needs not being met. Suggested solution strategies emphasized cooperative work involving personal choice as a motivational tool. Intervention methods included projects organized by cooperative groups based on students' various multiple intelligences. Speakers and field trips were used to relate curriculum to real-life situations. Student motivation increased as projected: overall homework completion increased and the majority of students responded favorably to project-based learning supplemented with speakers and field trips. Modifications in the tenth grade need to be considered since the results were not as effective in increasing motivation at this level. (Contains 30 references.) (Author/BGC)

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INCREASING STUDENT MOTIVATION THROUGH PROJECT-BASED LEARNING

by

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Submitted in partial fulfillment of the requirements for the

degree of Master's of Arts in Teaching and Leadership

Saint Xavier University & IRI/Skylight

Field-Based Master's Program

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TABLE OF CONTENTS

		Page
Abstract		iii
Chapter		
1	Problem Statement and Context	1
	General Statement of Problem	1
	Immediate Problem Context--School A	1
	Description of Surrounding Community--School A	3
	Immediate Problem Context--Schools B & C	4
	Descriptions of Surrounding Community--Schools B & C	8
	Regional & National Context	9
2	Problem Evidence and Probable Cause	12
	Problem Evidence	12
	Probable Cause of Problem	16
3	The Solution Strategy	24
	Review of the Literature	24
	Terminal Objective	29
	Process Statements	29
	Action Plan	30
	Methods of Assessment	32

4 Project Results 33

Historical Description of Intervention 33

Presentation and Analysis of Results 36

Conclusions and Recommendations 41

References Cited 44

Appendices 46

Appendix A - Student Survey 47

Appendix B - Teacher Survey 48

Appendix C - Teacher Journal Entries 49

Appendix D - Sample Project List for Tenth Grade 50

Appendix E - Multiple Intelligence Survey 51

Abstract

Authors: Kathy Bartscher
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Date: December 1995

Title: Increasing Student Motivation Through Project-Based Learning

This report describes a program for increasing student motivation as demonstrated by a higher percentage of completed homework and maximum voluntary class participation. The targeted population consisted of third, sixth, and tenth grade students from low to middle income families, located in northern Illinois. The problem of low motivation was documented by student surveys, teacher journal entries, and homework checklists.

Possible causes of the identified problem may be low educational background of parents, differing cultural values and lack of parental support and involvement. Review of the literature suggested that low motivation in the schools may be due to the fact that students' psychological needs are not being met.

Suggested solution strategies emphasized cooperative group work involving personal choice as a motivational tool. Chosen methods of intervention included projects organized by cooperative groups based on students' various multiple intelligences. In addition, speakers and field trips were used to relate curriculum to real-life situations.

Student motivation increased as projected: overall homework completion increased and the majority of students responded favorably to project-based learning supplemented with speakers and field trips. Modifications in the tenth grade need to be considered since the results of the projects were not as effective in increasing motivation at this level.

Chapter 1

PROBLEM STATEMENT AND CONTEXT

General Statement of Problem

The target students at schools A, B, and C in grades three, six, and ten show a lack of motivation as demonstrated by a low percentage of completed homework and minimal voluntary class participation.

Immediate Problem Context--School A

[Note: School A is located in community A, and schools B and C are located in community B.] At school A, there are 387 students currently enrolled. School A is a neighborhood school which serves a majority of students within walking distance. Of the 387 students, 37 percent are Caucasian, 59 percent are African-American, and 4 percent are Hispanic. Over 75 percent of the students are from low income homes. This qualifies school A to be a school wide Chapter 1 building. School A has an attendance rate of 93 percent and a chronic truancy rate of 4 percent. The student mobility rate of school A is 32 percent.

School A is administered by one principal with a support staff consisting of one assistant principal, one counselor, one Success for All facilitator, one curriculum implementor, one librarian, two parent liaisons, one secretary, one secretarial assistant, one nurse (2 1/2 days per week), and two building engineers. There are 16 classroom

teachers; 6 reading specialists; 3 special education teachers; 4 specialists who teach art, music, physical education, and computer science; and 3 para-professionals. The administration and teaching staff are 82 percent Caucasian and 18 percent minority. The average experience of teachers within school A is 9.5 years. Ninety-seven percent of the teaching staff have completed a bachelor's degree and 28 percent have obtained a master's degree or above. Thirty-four percent are presently enrolled in a master's program. The staff consists of 41 females and 3 males. The average class size for school A is 22, excluding the 2 self-contained special education classrooms which contain 15 students each. School A's salaries and budget items are paid through two accounts: school A's district budget, and the funds for Community Academy Schools, or C-8 schools as referred to in the federal lawsuit.

School A is a Community Academy School as designated by the federal courts. It is a one story building built in 1966 with 23 classrooms. Of the 23 classrooms, 15 are regular classrooms--2 classrooms for each grade level, with the exception of first grade which has 3 classes due to over-crowding. Eight classrooms are provided to accommodate the special education classes, Chapter 1, Reading Recovery, and speech therapy program. School A offers one all-day kindergarten class and two half-day kindergarten sessions.

The teachers at school A follow the district curriculum guide, as well as utilize special programs to enhance the academics. The district curriculum consists of science, social studies, math, reading, and English. Students in grades kindergarten through sixth attend physical education, art, and music twice a week. Other special programs that are offered are: Success for All, a reading program developed at Johns Hopkins University; Reading Recovery; a computer laboratory; French Club; chorus; Peer Mediation; Conflict Management; Student Council; Safety Patrol; Discipline with Dignity Training; AIMS--Hands on Manipulative Training; and after-school activities such as intramural basketball. Alternative education programs that are offered include one Chapter 1

Assured Readiness for Learning (ARL) kindergarten; two self-contained cross-categorical special education classrooms, one primary and one intermediate; and one resource cross-categorical special education classroom. Each of the self-contained special education classrooms has one para-professional in addition to the teacher.

The parents/guardians of 98.1 percent of the students of school A made at least one contact with the students' teacher during the 1992-93 school year. This figure is higher than the state's 91.8 percent.

The education of all students within school A's district will be affected in various ways due to a federal lawsuit which was filed in 1989. The outcomes of the lawsuit include the following: the district has been found guilty of intentional abuse and genuine neglect of minorities in class assignments, bussing, and facilities. The verdict mandates that integration efforts will continue, and a court appointed master will remain in charge of desegregation programs. There will be 13 percent tax increase as remedies are approved in 1994. Schools with mostly minority students will continue to receive more money for improvements. Community A tax payers will pay for all attorneys. The current case probably will continue for ten or more years (School Report Card, 1993).

Description of Surrounding Community--School A

The population of the district for school A, as of September 1994, was 27, 382 students. These numbers included 64.6 percent Caucasian, 25.3 percent African-American, 7.1 percent Hispanic, 2.8 percent Asian-Pacific Islanders, and 0.24 percent Native American students. The district allocates $5,395 per student.

The district for school A recently restructured the administration into a team of a superintendent, two associate superintendents, one assistant superintendent, and one in-house attorney. There are 11 general directors on the administrative team. The school board is composed of seven members elected from geographic areas within the community. The number of schools within the district for school A include: 4 high

schools, 4 middle schools, 40 elementary schools, 2 special education facilities, and 2 early education centers. In addition to these elementary and secondary schools, a variety of post-high school educational institutions, both public and private, offer cultural and educational opportunities to the community.

School A is located in community A with a population of 140,000. The median household income for the first quarter of 1994 was $43,000. The ethnic composition of community A has changed from 1980 to 1990. Numbers show that the Caucasian population has decreased from 84.3 percent to 79.9 percent, whereas the African-American, Hispanic, and Asian population has increased (African-American--13.2 percent to 14.8 percent, Hispanic--2.9 percent to 4.2 percent, and Asian--0.5 percent to 1.5 percent).

About 33 percent of community A's economy is strongly tied to manufacturing. A large automotive assembly plant in adjacent community B is one of the area's largest employers. Community A also has high employment concentrations in machining, metal working, and transportation equipment industries. The skills of community A's workers reflect the technical needs of these industries and have historically resulted in higher productivity levels than the national average. Government jobs represent less than ten percent of the work force.

Immediate Problem Context--Schools B & C

At school B, there are a total of 367 elementary students currently enrolled. This school is a neighborhood school that only serves students within the city limits. A majority of the students live within walking distance of the school; however, due to overcrowding, six students are currently bussed to other schools within the district. Of the 367 students currently enrolled, 81.7 percent are Caucasian, 17.7 percent are Hispanic, and 0.1 percent are African-American. Twenty-seven percent of the student population qualifies as low-income. School B has an attendance rate of 95.8 percent and

a chronic truancy rate of 0.8 percent. The student mobility rate for school B is 38.4 percent.

School B is administered by one principal with a support staff consisting of one secretary, two part-time nurses, one librarian, two part-time librarian clerks, and one custodian. There are 14 classroom teachers and 6 specialized teachers. The administration and teaching staff are 100 percent Caucasian. The average years of teaching experience is 15. Thirty percent of the teaching staff have completed a bachelor's degree and 50 percent have education levels of a master's degree or above. Twenty percent of the teachers are presently enrolled in a master's program. The staff consists of 17 females and 3 males. The average class size is 26 students.

School B is a three-story facility built in 1900 that is not handicap-accessible. There are a total of 14 regular classrooms, and 3 rooms which accommodate Chapter 1 Reading, a learning disabilities resource class, and the gifted education program. There are two classrooms for each grade level in grades one through six. Due to overcrowding, an additional second grade classroom has been added. Two sessions of half-day kindergarten are offered.

The teachers at school B follow the district curriculum which consists of science, social studies, math, reading, and English. Students in grades one through six attend physical education classes daily and music instruction twice a week. Grades three through six receive art education once a week. School B offers five alternative educational programs for children with special needs. These programs consist of a learning disability resource program, Chapter 1 Reading, speech therapy, Transitional Program of Instruction (TIP) for students who speak English as a second language, and gifted education. Additional programs in targeted school B are Safety Patrol, Drug Awareness Resistance Education (D.A.R.E.), and a Buddies program which involves grades one and six.

School B had 98.1 percent of the students' parents make at least one contact with the students' teacher during the 1992-93 school year. This figure is higher than the district's 79.4 percent, and the state's 91.8 percent (S. Lennon, personal interview, Sept. 1994).

At school C, there are a total of 1,475 students currently enrolled. School C is a high school which serves students in grades 9-12. Of the 1,475 students enrolled, 88.1 percent are Caucasian, 1.1 percent are African-American, 10.2 percent are Hispanic, 0.6 percent are Asian-Pacific Islander. Seven and seven tenths percent of the student population qualifies as low-income. School C has an attendance rate of 92.3 percent versus the state's average rate of 93.4 percent. The student mobility rate for school C is 17.1 percent. School C struggles with a high chronic truancy rate of 11.5 percent versus the state's average of only 2.2 percent.

School C is administered by one head principal with a support staff consisting of two assistant principals, three department heads, four counselors, one nurse, one librarian and one assistant, seven secretaries and one part-time secretary, two instructional aids, and ten custodians. The administration and teaching staff are 100 percent Caucasian. The average experience of teachers within school C is 16.3 years, with 52.5 percent of the teachers holding a bachelor's degree, and 47.5 percent of them holding a master's or above. The staff consists of 43 females and 44 males. About 20 percent of the staff is new to the school during the 1994-95 school year.

School C is a two-story building built in 1966. It houses one library, two gymnasiums, three computer labs, two study halls, one band and one chorus room, machine, wood, and auto shops, as well as two courtyards.

School C has a graduation requirement of 24 credits which must include: 3 units of English; 2 units of mathematics; 2 units of social studies; 2 units of science; 1 unit of either art, music, foreign language (Spanish or German), or vocational education; a 1/2 unit of health; 3 units of physical education, a 1/2 unit of drivers education; and a 1/2

unit of consumer education. In addition to these requirements, students may select from classes in home economics and industrial technology--automotive, drafting, building trades, and electronics.

Students at school C are placed in one of three academic tracks: basic, average, or advanced/accelerated. Placement is based on teacher referral and student/parent consent. The special education program offered at school C includes monitoring, modification of curriculum in regular education classes, a resource room for assistance, instructional classes in reading, math, and US History for those with mild learning disabilities, and a full continuum of self-contained classrooms of math, English, science history, and vocational education. There are 140 students who participate in this special education program with 7 1/2 special education teachers. School C services students classified as Learning Disabled (LD), Educably Mentally Handicapped (EMH), Behavior Disordered (BD), Speech and Language impaired (SL), Hearing Impaired (HI), and Trainable Mentally Handicapped (TMH). The latter students go to a nearby center for most of the day and visit the high school for socialization at lunch and possible vocational education programs. Those with more severe handicaps are sent to private facilities in a nearby community. School C offers Renaissance, an incentive program to encourage students to achieve academic excellence. The program is designed to help students improve their school attendance, academic achievement, and contribution to the school and community.

Students who meet the Renaissance program standards for each nine week grading period receive a variety of benefits, including discounts at local stores. A tutorial program has been instituted recently by school C for students who need additional assistance with class material. School C also offers many extracurricular activities, and those participating in sports must adhere to eligibility requirements.

School C had 51.5 percent of the students' parents make at least one contact with the students' teacher during the 1992-93 school year. This figure is significantly lower than the district's 79.4 percent and the state's 91.8 percent (School Report Card, 1993).

Description of Surrounding Community--Schools B & C

Schools B and C are a part of district B. The district encompasses 160 square miles and serves 2/3 of its county. The district operates six elementary schools, one junior high school, one high school, and one special education facility. The current enrollment is 4,882 students in kindergarten through twelfth grade. This enrollment consists of 87.4 percent Caucasian, 1.2 percent African-American, 10.9 percent Hispanic, and 0.5 percent Asian-Pacific Islander. The district allocates $3,702 per student.

The district is administrated by an appointed superintendent of schools, an assistant superintendent of business, and an assistant superintendent of curriculum. The board of education is comprised of seven members elected to four-year terms of office by the people of the school district. In Spring 1994, the education association of the community voted "No Confidence:" in the school board, due to the lack of cooperation between the school board and the administration/staff.

School B and C are located in community B. Community B is a rural community 12 miles east of community A. The population increased five percent from 1980 to April 1990. From April 1990 to December 1992, the population increased an additional six percent. At this growth rate, it is estimated that the population of community B will increase 20 percent by the year 2000. The population today is approximately 17,500.

The county in which community B is located is growing at a greater rate than the community itself. Within the county, a ten percent population increase was experienced between 1980 and April 1990. From April 1990 to December 1992, the population increased an additional 15 percent.

The county of community B shows a wide rage of educational levels. Educational characteristics of the adult population reveal that 25 percent of the population has not completed high school. Forty percent of the population has completed 12 years of schooling, and 18 percent of the adults in community B have completed a bachelor's or professional degree.

Most residents of community B work in the manufacturing sector. Manufacturing jobs represent 59 percent of the 10,484 jobs in the county. The next largest field of employment is retail trade, which accounts for 16 percent of the total number of jobs. This is followed closely by service jobs, which represent 13 percent of the total work force of the county. Unemployment has decreased from 8.7 percent in 1985 to 7.4 percent in 1992, representing a 1.3 percent decrease.

The community economic status is reflected by family and per capita income. The 1990 median family income was $38,586 and per capita income was $14,355. Forty-nine percent of the county employees in community B work in that county. The racial composition of community B is heterogeneous. It consists of approximatley 87 percent Caucasian, 12 percent Hispanic, and 1 percent African-American, and "Other." There has been only a slight change in the overall racial composition of community B since 1980. Persons of Hispanic origin have increased from 4 to 12 percent of the total population, and now number 2,152 (S. Huizinga, personal interview, Aug. 1995).

Regional & National Context

Student motivation, or *lack* of it, is an issue with which educators must constantly contend. Lack of motivation is often linked to low academic achievement, and, in Western democracies, students' attitudes and abilities can determine their achievement (Berliner & Casanova, 1993). American students seem to differ greatly from their Asian counterparts in their attitudes toward homework. In a study of kindergartners, first, and fifth grade students from Minneapolis (USA), Taipei (Taiwan), and Sendai (Japan),

attitudes about homework seemed to influence achievement. Japanese and Chinese students do far more homework than Americans (Berliner & Casanova, 1993). Berliner stated, "Over reliance on intellectual and ability tests has decreased our emphasis on effort. Less is expected from children belonging to racial or cultural groups presumed to be less capable" (p. 125).

Those with learning disabilities and/or other learning impairments find unique difficulties in school, a fact often resulting in motivational problems. According to Gartner and Lipsky's (1989) study, 47 percent of adolescents with learning disabilities drop out of school by the age of 16 (cited in Van Reusen & Bos, 1994). Van Reusen and Bos pointed out that "Even when adolescents with learning disabilities possess the necessary skills or knowledge to learn new information or complete assignments and tasks, many still do not succeed in school" (p. 467). The authors added that one possible reason for this lack of achievement among students with learning disabilities may be their limited motivation to learn.

The transitional years of sixth grade, junior high, and ninth grade pose special problems for students in the area of motivation. This problem is not unique to the United States, but occurs in Europe as well. In a study of Swedish students' attitudes toward school and particular school subjects, the researchers discovered that "The largest drops in attitude and interest came between fifth and seventh grade, about the times when children in our country (USA) move from elementary school to middle or junior high school" (Berliner & Casanova, 1993, p. 126). When the researchers interacted with other researchers from Europe and the Western democracies, they concurred that students' attitudes become increasingly negative by the time they reach ninth grade. (Berliner & Casanova, 1993). For most tenth graders, school is a reality that is seen as irrelevant to the rest of their lives. The attitudes of below-average ability level students are especially negative because they are not interested in book learning; many become "psychological dropouts" (NASSP, 1985, p. 75). They may continue to attend school because of lack of

options; however, if they do, they perform minimally (NASSP, 1985). William Glasser 's (1990) descriptions of students in late middle school or early high school is indicting. Concerning these students he stated, " . . . there is a state of almost total antagonism between the teachers and the non-working students, who sometimes number as many as 90 percent of the students in economically deprived neighborhoods" (p. 50). This antagonism is not limited only to economically deprived areas; he added, "This is also the state of affairs for up to half the students in even our best public secondary schools. The atmosphere may be less explosive, but the sullen antagonism is just as high" (p.51).

Chapter 2

PROBLEM EVIDENCE AND PROBABLE CAUSE

Problem Evidence

In order to document student motivation, four types of evaluation were used. The evaluation tools consisted of a student survey, a teacher survey, teacher-made journal entries on student participation, and a homework checklist. The journal-made entries documented selected students' participation over a three day period, and the homework checklists documented the number of assignments turned in by all students over a 10-day period. The results of the data collection follow.

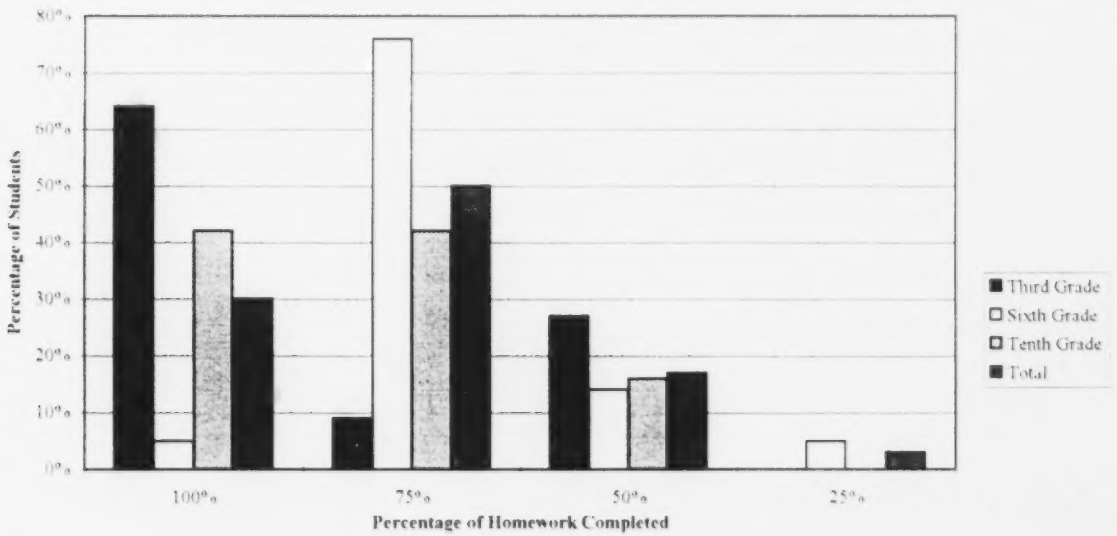

Figure 1
Available Hours for Homework

Students were asked to estimate how much of their daily homework they completed on a regular basis. Of the total group surveyed, (Appendix A) only 31 percent completed 100 percent of their daily work. About two-thirds of the students (Appendix A) surveyed admit to not completing their homework. The majority of the total group felt that they complete 75 percent of their assignments daily. Over 60 percent of the third graders believed that they completed 100 percent of their homework. While only 5 percent of the sixth graders thought they had completed *all* their daily work, the majority of the sixth graders reported that they finished at least 75 percent of their daily homework. About 40 percent of the tenth graders completed 100 percent, and 40 percent also completed 75 percent of their daily homework. These data suggest the possibility that as students reach middle school their motivation to do homework decreases and then increases by the time students reach tenth grade.

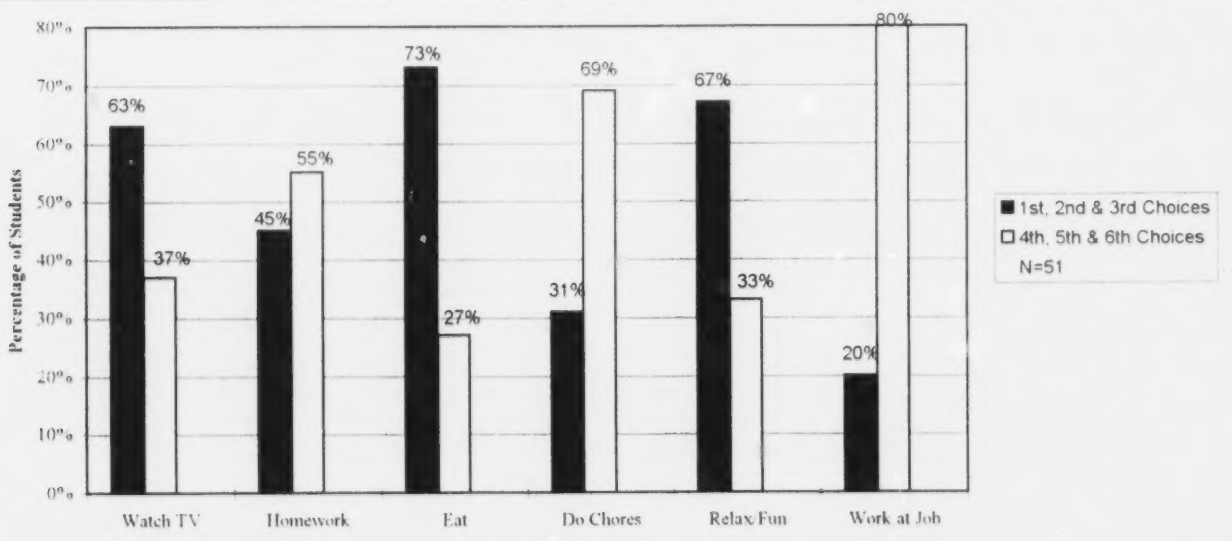

Figure 2

What Students *Want* To Do After School

[It should be noted that data may be skewed due to third graders' limited comprehension ability.]

The data in Figure 2 indicate what students would like to do if they had a choice when they came home from school. They were asked to rank the activities in order from 1-6, with 1 indicating their first choice and 6 indicating the last. More than 50 percent of the students would choose to eat, relax/have fun, or watch TV as one of the first three things to do when they got home from school. Less than 50 percent of the students would choose to do homework, do chores, or work at a job as one of the first three things to do when they got home from school. A notable difference from Figure 2 is that doing homework is an activity students actually *do* (see Figure 5) but was not one that was *chosen* as an activity to do as one of the first three things done when they got home from school.

Another instrument that was used to measure students' motivation was a homework checklist. In order to determine if an assignment was completed, teachers took into consideration whether or not the students legitimately did not understand directions but still made an attempt to complete the assignment. As a result of our homework completion checklists, the following results were found. The third grade students completed 54 percent of the assignments given. The sixth grade students had the highest homework completion rate of 96 percent, and the tenth grade students completed 76 percent of their homework. This high homework completion rate by the sixth graders argues against the previously suggested possibility that as students reach middle school their motivation to do homework decreases. In addition to the homework completion checklists, we surveyed third, sixth and tenth grade teachers about their opinions regarding the percentage of their students who completed their homework. Over half of the teachers reported that 75 percent of their students turned in their homework. Less than half reported that 50 percent or fewer turned in their homework.

When teacher anecdotes (Appendix C) regarding students' participation in class were examined, several behavior patterns emerged. The behavior of the selected students revealed insights into the differences not only between individual students, but between

students at different grade levels as well. The students selected from a special education third grade class, on average, needed constant feedback or reassurance in order to participate. Some students did not participate unless they were addressed personally, had one-on-one help, were reminded frequently to remain on task, or received prompting or redirection. A few refused to participate at all with some of them claiming that they were unable to do the work by themselves and some simply exhibiting a low frustration tolerance. Many were noted as having a short attention span and were easily distracted One student, claiming the assignment was too difficult, put his head on the desk for the remainder of the period. However, one student, when faced with the prospect of losing a privilege of free time, decided to complete work.

The selected sixth grade students exhibited a variety of behaviors in class, ranging from total lack of participation to more frequent participation; however, most students seemed to fall "in between" these extremes, with the balance of them participating only slightly. They seemed to struggle with concentrating, especially during sustained silent reading times. Participation improved when cooperative groups were employed in classroom instruction.

The high schoolers, as a whole, did not enthusiastically participate in class question and answer sessions. Those who did volunteer to answer a question were in the minority, and usually answered inaccurately. However, if called upon, the students fell into either two categories: those who definitely knew the answer, and those who did not and had no desire to search for it. The observed avoidance behaviors included the following mannerisms: holding a book in front of their face in hopes of not being called upon to answer a question; speaking and/or "mouthing" the words quietly (instead of raising their hand), forcing the teacher to ask them to repeat their answer; and maintaining good eye contact with teacher, indicating understanding of discussion, yet responding reluctantly when called upon or responding with a slightly incorrect answer. One student appeared uninterested in discussion/activities, evidenced by his lack of class

participation and early "packing up" to leave class, but engaged in the discussion when a controversial topic was mentioned. In general, the high schoolers seemed reticent to ask any questions, although a few occasionally did so in order to clarify terms or to ask for assistance with work.

In summary, homework completion and class participation rates are problematic. The third graders only completed slightly over 50 percent of their assignments during the observed time period and few participated in class discussions without constant prompting from the teacher. While the sixth grade students had close to a 100 percent homework completion rate, they still lacked active classroom participation. The tenth graders fall between the third and sixth grade homework completion rates with approximately 75 percent of them completing homework assignments, and they also consciously avoided class participation.

Probable Cause of Problem

A student survey (Appendix A) and a teacher survey (Appendix B) were used as instruments to provide data to suggest probable cause factors. The student questionnaire (Appendix A) was given to students in grades three, six, and ten. The students were asked questions regarding the reasons why they did not complete their homework. Most of the third and sixth grade students agreed that homework assignments were too difficult, whereas the tenth graders claimed that they simply did not feel like doing it. The majority of the students agreed that they had only a short amount of time to complete their work (See Figure 3).

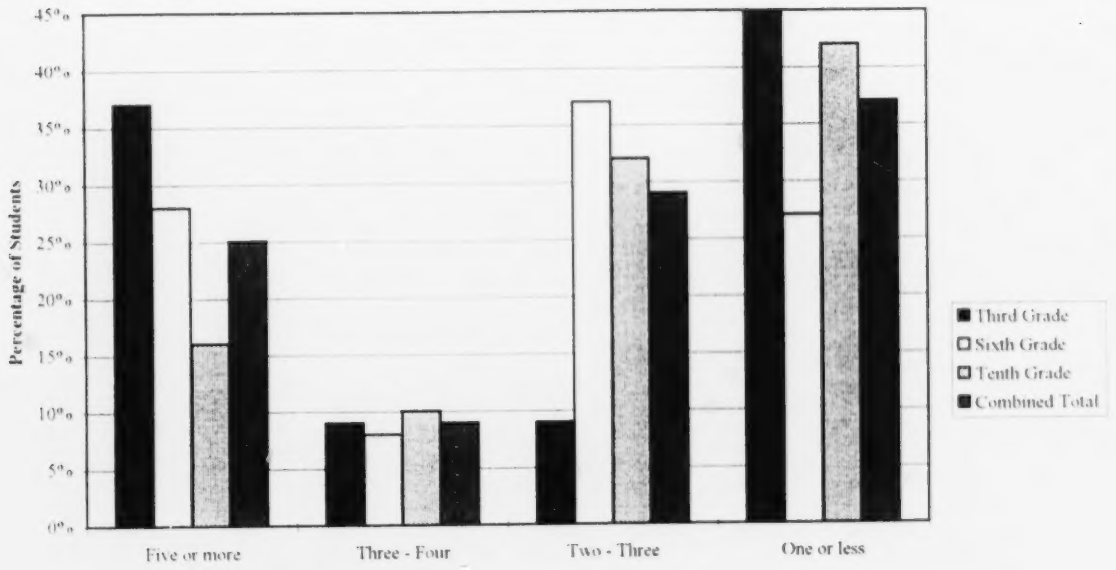

Figure 3
Available Hours for Homework

In regards to why they did not complete their homework, almost 50 percent of the total group surveyed (Appendix A) felt that the assignments were too difficult. The majority of the third grade students believed the assignment was too difficult. Forty percent of the sixth grade students also felt the work was too difficult, and forty percent did not understand the directions. The group of tenth grade students had a different outlook. Most of them stated that they did not feel like doing the work, or that they did not have enough time to complete it (See Figure 4).

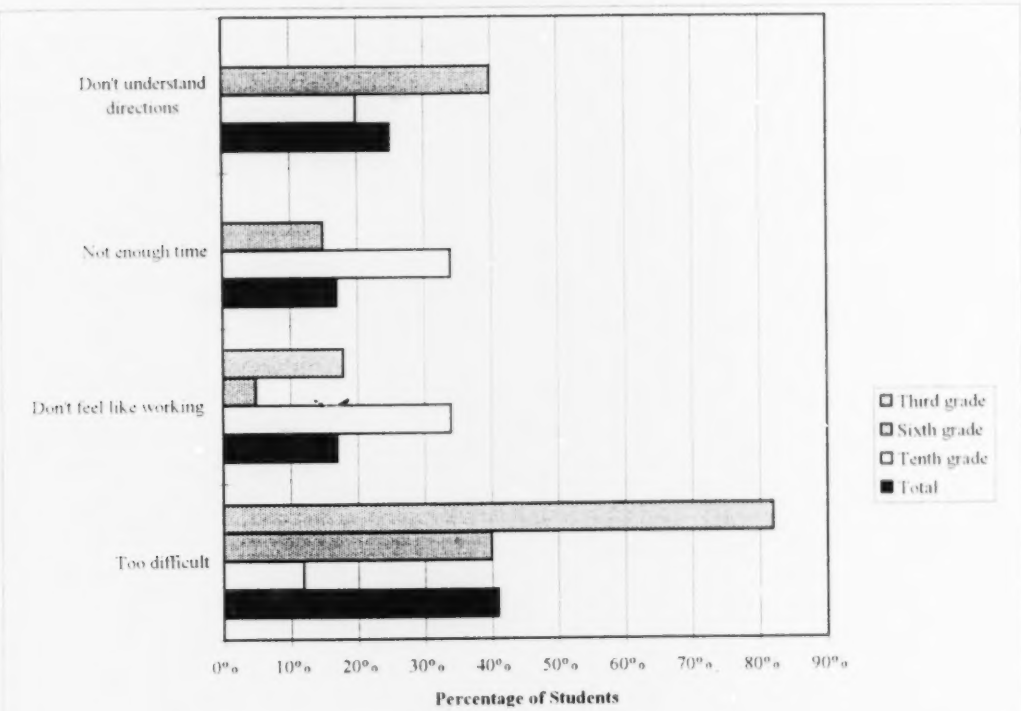

Figure 4
Reasons Students Do Not Complete Homework

The same group of students were asked to estimate how much time daily they had available to complete all their assignments. Figure 4 indicates that many of the students surveyed (Appendix A) believe that they only have one hour or less to complete all assignments. If these data accurately reflect the actual amount of time that students have to do their homework, then students may not have enough time to adequately complete their homework nor to complete it in-depth. Thirty-seven percent of third graders felt that they had five or more hours to do their work while 45 percent had only one hour or less to complete their work. The group of tenth grade students seem to be the most lacking in time to complete their homework assignments.

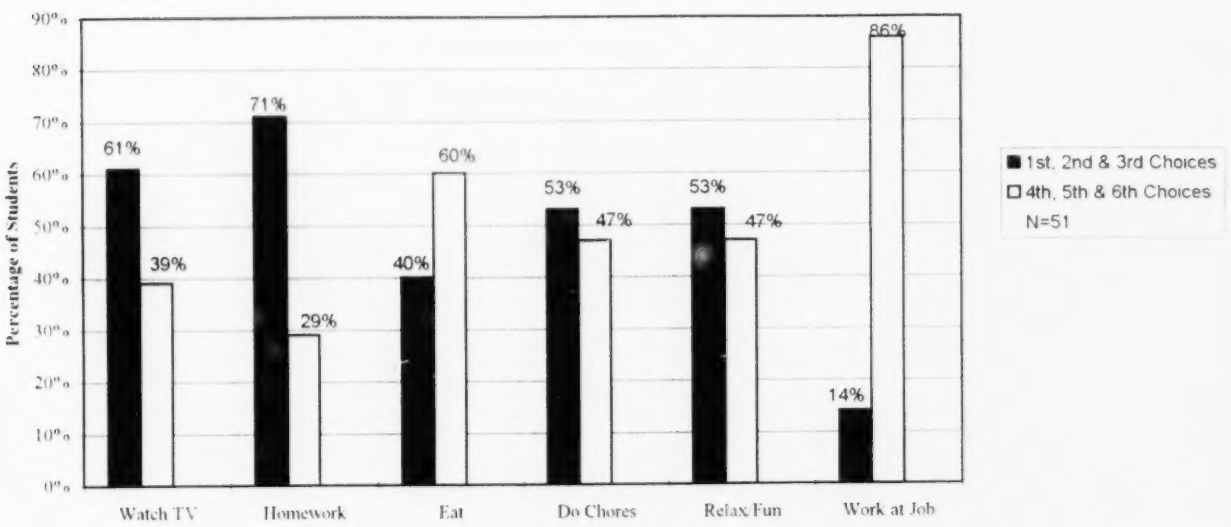

Figure 5

What Students *Actually* To Do After School

[It should be noted that data may be skewed due to third graders' limited comprehension ability.]

The data in Figure 5 indicates what students actually do when they come home from school. They were asked to rank the activities in order from 1-6. More than 50 percent of the students indicated that they either eat, do homework, watch TV, or relax/have fun as one of the first three things they do when they get home from school. Less than 50 percent of the students reported (Appendix A) that they do chores or work at a job as one of the first three things they do when they get home from school.

A survey (Appendix B) distributed to teachers revealed that, in their opinion, the main reason why their students did not complete their homework, was because they simply did not feel like it. The teachers were also asked to estimate how long it would take their students to complete an average assignment. All of the teachers (Appendix B) responded with 30 minutes or less.

Analysis of the literature reveals that lack of student motivation is due to lack of parental involvement, cultural misunderstanding, and low self-esteem. Negative school environment, ineffective teaching strategies, and a lack of a meaningful context of

learning all contribute to the low motivation of students. Research also suggests that low student motivation is due to students' psychological needs not being met. In addition, a lack of student choice and meaningful goals decreases student motivation.

Parental support and involvement greatly influences children's motivation. Parents need to communicate high expectations to their children and view hard work as a key to success. They need to encourage their child to make the most of the opportunities available to them at school. If parental support does not exist in the home, the child may lack motivation. Parents also need to model the importance of school by making frequent contact with teachers and by providing a structured environment that reflects the values of the school (Wlodkowski & Jaynes, 1990). However, overprotective parenting can *inhibit* motivation in a child. When parents become too involved in their child's academic life, this practice may hinder a child's growth toward independence, and therefore cause the child to lack intrinsic motivation (Bruns, 1992).

Cultural differences may also contribute to lack of student motivation. If curriculum materials are not adapted to children's culture, they will not connect their studies with out-of-school experiences; therefore, school and learning will be meaningless to the student (Means & Knapp, 1991).

Student low self-esteem may decrease motivation as well. According to Bruns (1992), unmotivated students express their low self-esteem in a number of ways, such as not completing assignments, not sharing their feelings and concerns, acting immature, or exhibiting shyness or self-doubt. In order to help students overcome their feelings of lack of personal success, Clifford (1990) felt that teachers need to emphasize correcting errors and learning from them rather than teaching in an environment that avoids errors. Many educators overlook errors, reduce task difficulty, and ignore faulty performance in order to help students feel successful. This easy success does not challenge students, nor does it encourage them to reach their potential. Students need to learn to accept errors, so that they are less timid to take on more challenging tasks. Teachers can assist in achieving

this goal by being tolerant toward student errors and by encouraging error correction (Clifford, 1990).

Negative school environment can also lead to low motivation of students. Glasser (as cited in Gough, 1987) defined a negative school environment as one which uses an "out-dated" system of stimulus/response theory--ignoring the psychological needs of the students, instead of employing a team approach--encouraging student input and participation. A major contributing factor to a negative school environment is a lack of positive role models. Jantzen (1988) believed if students are around more people who are successful and serve as positive role models, they will become more motivated. Jantzen stated, "It is unarguably clear that human beings learn best by example and by doing; if our students see models doing, they may do more themselves" (p. 13).

In addition to a negative school environment, another possible reason for low student motivation is ineffective teaching strategies. One ineffective teaching method in particular is a lack of consistent, prompt feedback. Unfortunately, students frequently do not receive prompt feedback on their assignments, thus decreasing their desire to produce quality work (Clifford, 1990). Jantzen (1991) confirmed this feedback dilemma, stating ". . . we have all witnessed classrooms with bored and alienated students, where the only feedback is an occasional 'end of unit' test" (p. 33).

In some school settings, lack of students' motivation is due to students being deprived of a meaningful and motivating context of learning. Means and Knapp (1991) stated that, "Classroom studies document the fact that disadvantaged students receive less instruction in higher-order skills than do their more advantaged peers. Their curriculum is less challenging and more repetitive" (p. 283). Teachers underestimate these students' capabilities and postpone challenging or interesting work. Teachers can help motivate these students by enabling them to handle complex tasks in a step-by-step fashion (Means and Knapp, 1991).

Based on Glasser's research, students lack motivation in school because

the school does not satisfy their needs. To get students to work up to their potential, the school environment needs to fulfill the psychological needs of love, power, freedom, and fun. If a child does not feel a sense of belonging in school, that child will not be concerned with his academic subjects (as cited in Gough, 1987).

A lack of meaningful goals and student choice adds to the problem of low motivation. When a meaningful purpose supports the goals that teachers set for students, the chances are greater that these goals will be met (Siccone and Canfield, 1993). Students also need to become responsible for their own learning by having opportunities to make decisions related to their learning (Pardes, 1994 and Wlodkowski & Jaynes, 1990). Clifford (1990) stated, "Constraint gives a person the desire to escape; freedom gives a person the desire to explore, expand, and create" (p. 23). When students are given choices, they must think about their learning and choose learning strategies that reflect their intellectual strengths. Students must also have the opportunity to evaluate their performance (Pardes, 1994). In closing, Pardes (1994) stated, " As students take control of their learning, they learn to motivate themselves" (p. 100).

A summary of the probable causes at the site and from the professional literature includes, lack of the following:

1. Ability to complete assignments independently
2. Interest in assignments
3. Time to complete assignments
4. Comprehension of directions
5. Perceiving of homework as a high priority
6. Parental involvement
7. Cultural understanding
8. High self-esteem
9. Positive school environment
10. Meaningful context of learning

11. Students' psychological needs being met
12. Student choices
13. Meaningful goals

Chapter 3

THE SOLUTION STRATEGY

Review of the Literature

Analysis of probable cause data reveals that lack of student motivation is a major concern of educators. Research suggests the following probable causes: parental and cultural factors, low self-esteem, lack of meaningful goals and personal success, negative school environment, ineffective teaching strategies, and unmet intellectual and psychological needs.

The literature search for solution strategies focuses on effective teaching methods which may enhance student motivation. Analysis of these data suggests that greater student ownership of learning, such as choice of activities related to his/her personal interests, and modified teaching techniques lead to improved student motivation.

Some factors which may lead to higher motivation are often out of teacher control. These factors include team teaching and smaller class size. In discussing restructuring of schools, Bracey (1993) reported that team teaching along with smaller classes is related to higher achievement and engagement in the learning process.

A proposed solution to many students' motivational problems is to offer them more challenges that lead to moderate success. When students are given opportunities to do activities slightly "above" their abilities, they tend to "rise" to the occasion (Clifford, 1991). Clifford suggested that gradual success with a tolerance for error-making rather

than continual success also enhances motivation. Another component in attacking students' lack of motivation is moderate risk-taking. As Clifford stated, "From every risk-taking endeavor--whether it ends in failure or success--risk takers learn something about their skill and choice of strategy, and what they learn usually prompts them to seek another risk-taking opportunity" (p. 24). The more rewarding the payoffs for academic risk-taking, the more apt the students will be to attempt challenges. Clifford believed that education's greatest disservice to students is that it does not create an environment where they can enjoy *true* success; "synthetic success" is promoted instead, leading to more student apathy and lack of desire to learn. To combat this tendency, more tolerance of error, rewarding of error correction, and ensuring challenge will encourage students to be motivated to learn.

A teaching method which has proven to be particularly effective in increasing student motivation is offering consistent feedback to students. In classrooms where teachers give meaningful and constant feedback, students are generally more involved with their learning (Sagor, 1991). Teachers are encouraged to comment on completed assignments, orally or in writing, and to offer continual feedback which charts progress and gives an accurate evaluation of the student's progress. These practices offer concrete evidence that student effort makes a difference (Wlodkowski & Jaynes, 1990).

Another means of feedback that is gaining increasing popularity is the portfolio. Use of a portfolio offers an alternative to the traditional methods of grading, which often do more to discourage students from trying than to improve their efforts (Seal, 1993). Portfolios help students to concentrate on their own learning instead of competing with others for grades (Steinberg, 1993).

To increase motivation, research suggests that students need to be around more people who accomplish and achieve. Jantzen (1988) stated, "They need to be provided with live walking models." (p. 33). Teachers can help motivate students by sharing their outside interests (Jantzen,1988). Guest speakers can also serve as positive role models.

They can share their interests and careers. Former students that are presently college students can serve as mentors (Abi-Nader, 1991). These mentors can help students connect their studies to the necessary skills for college. The guest speakers' or college students' enthusiasm may help students to become excited about an area of learning or school, in general.

Students who have the opportunity to display their work are motivated to put forth their best efforts. Students can share their work visually by making posters or designing a bulletin board. Students can present their work to their peers through an oral presentation or book talk (Avery, 1993). Bodily/ kinesthetic learners may be more enthused to act out their work or share it by making a project or cooking a meal. Students will be more accountable for their work when they have to display it (Pardes, 1994).

Based on research, students are motivated when engaged in cooperative learning (Gough, 1987; Gallicchio, 1992; and Wlodkowski & Jaynes, 1990). William Glasser, in an interview conducted by Gough stated, "As a society, we're failing to understand that students will not work in classes that do not satisfy their needs" (p. 657). Glasser also believed that the psychological needs of love, power, freedom, and fun are more important than the survival needs. According to Glasser, cooperative learning is a viable means to meet these psychological needs, in particular the need for power. Glasser stated, "I believe that the need for power is the core . . . of almost all school problems" (p. 658). Glasser added that it is important for students to understand that knowledge really is power (cited in Gough, 1987). In closing, Glasser emphasized that teachers cannot force students to learn, but they can provide an environment where students are encouraged to learn.

When using cooperative learning as a means of motivating students, the question of whether to use extrinsic rewards is debatable. This debate revolves around the issue--Do extrinsic rewards actually enhance motivation or diminish it? Judy Cameron believed that "People given rewards spend as much time working on experimental tasks and

display the same motivation as those offered no rewards " (cited in Bower, 1994, p. 405). In contrast to the previously expressed view, Seal (1993) stated, "Psychologists have known for a while that extrinsic rewards erode kids' intrinsic motivation" (p. 23). In producing short-term results, however, psychologists agree that bribes are quite effective. The key to using extrinsic rewards is to avoid their continual use, a practice that can lead to decreased intrinsic motivation (Seal, 1993).

Another method that the research suggests improves student motivation is allowing students to have choice, choice in *what* they study and *how* they will study it (Bruns, 1992; Glasser, 1989; Seal, 1993). According to Deborah Stipek, "The more people feel they have some choice in an activity, the more they'll feel internally motivated." (cited in Seal, p. 24) Both Bruns and Seal noted that giving students choice in their education empowers them and fuels their sense of autonomy as learners. In addition, according to Joan Pardes (1994), "As students take control of their own learning, they learn to motivate themselves" (p. 100).

In an attempt to engage students in their learning, experts advocate incorporating real-life situations into the curriculum. As William Glasser stated:

> Many young people are working much harder at an after-school job at a McDonald's fast-food outlet than in school, for they see the work, menial as it is, as more important than schoolwork. For most of them, it is easier to see the quality in what they are asked to do there (achieve cleanliness, courtesy, and promptness) than the quality of the reading and calculating they do at school. (p.24)

Glasser added that until students are able to see the practical benefits of their education, they will continue to lack a fundamental desire to cooperate with the school system. In other words, schools need to include activities that are directly related to students' interests. One way to accomplish this goal is through projects. Mary Maurer, an educator, said that allowing students to choose between projects that reflect their

particular interests intrinsically motivates them. She listed hands-on activities, guest speakers from the community, cooking projects, art displays, musical arrangements, collections of relevant items, and acting as suggestions for increasing student motivation (Pardes, 1994).

Incorporating the theory of multiple intelligences into the curriculum is one way to help ensure full classroom participation (Beacham, 1990). Creative projects can spark enthusiasm in students, leading to increased class participation. Specific projects listed by Beacham that have worked in terms of increasing class participation, include designing a student-run model government project for a government class and creating a marketing contest to sell a student-made product. Another way a student activities adviser attempted to include those students who seem to lack any interest in school, was to employ them in an activity that they did enjoy--disc jockeying during lunch period (Beacham, 1990). By allowing students to use their talents/interests, educators may observe students' increase their natural motivation to learn.

The importance of relating students' effort to eventual outcomes is crucial if schools are to turn out successful students. Richard Sagor (1991) made the claim that "The single greatest problem experienced by at-risk youth in our schools is their failure to understand the relationship between effort and outcome" (p. 100). In order to increase students' awareness that their effort will achieve beneficial ends, educators should reward evidence of effort and perseverance within their students. Sagor said that we must not abandon academic assessment because this is the only means by which students will be able to evaluate their own performance and then set appropriate, higher goals for themselves. However, the tasks that teachers assign to students must always seek to be relevant and needs-satisfying for the students; as Glasser (1989) stated, "No one will work hard--and hard work is the key--without believing that there is value or quality in what is asked" (p. 24). Teachers should cultivate an atmosphere where students are

encouraged and challenged to continually learn and where they are rewarded when exhibiting this effort.

A particular segment of students that needs to be included in setting goals for themselves are those with learning disabilities. A study was conducted that involved instructing secondary level students with learning disabilities on how to effectively contribute their ideas during an Individualized Education Plan (IEP) conference. The study showed that these students trained with an IEP participation strategy took more responsibility for their individual learning. The strategies that they learned sometimes were carried over into other areas of their education, such as negotiating course requirements with a math teacher, and learning skills used to assist them in interviewing for jobs and post-secondary school (Van Reusen & Bos, 1994).

Another helpful strategy that leads to improved motivation is the inclusion of higher level thinking skills within the curriculum. A teacher approach that works particularly well for increasing students' eagerness to learn includes asking challenging questions. Examples of these types of questions will include words such as "predict," "develop," "combine," "draw," "construct," "propose," "plan," "design," "create," and "produce." These types of questions lead to higher-level thinking which, in turn, stimulates and challenges students, thus motivating them to learn (Wlodkowski & Jaynes, 1990).

Terminal Objective

> As a result of project-based learning, during the period of August to December of 1995, the targeted students in third, sixth, and tenth grade will increase their motivation to learn, as measured by student surveys, homework checklists, and teacher journal entries.

Process Statements

A. Students will be organized into cooperative groups to work on projects.

B. Projects will be developed based on students' various multiple intelligences and curriculum guidelines.

C. Speakers and/or fieldtrips will be used to relate curriculum to real-life situations.

Action Plan

A. Projects will be organized by cooperative groups.

1. Teachers will survey students to identify their personal strengths in the area of multiple intelligences.

2. Teachers will give an explanation of the theory of multiple intelligences to the students and the parents.

3. Teachers will organize cooperative groups based on students' choices according to their favored intelligences.

4. Cooperative groups will consist of three to four students.

B. Projects will be developed based on students' various multiple intelligences and curriculum guidelines.

1. Teachers will prepare curricular-related projects during the summer of 1995 in order to increase students' interest in the subject area.

2. Three projects will be included in the curriculum of:
   a. Third grade math concentrating on skills pertaining to money.
      Students will: --understand the value and purpose of money
      --write money amounts numerically
      --make change

      Examples: *Musical Rhythmic* = rap about money
      Verbal Linguistic &
      Logical Mathematical = write story problems
      Bodily Kinesthetic,
      Interpersonal, &
      Visual Spatial = students will arrange themselves to form a specific amount of money with the use of assigned cards

b. Sixth grade literature focusing on poetry, myths, and a specific novel.
Students will focus on: --figures of speech
--plot
--theme
--character
--setting

Examples: *Musical Rhythmic* = bring in music related to the setting
Interpersonal,
Verbal Linguistic, &
Bodily Kinesthetic = create and act out skits related to the literature
Logical Mathematical &
Visual Spatial = sequence events on a timeline
Intrapersonal = take on the persona of a character and write a weekly diary

c. Tenth grade literature focusing on a specific novel, play, and assorted short stories.
Students will analyze: --plot
--theme
--character
--setting
Examples: (See sixth grade examples.)

C. Speakers and/or field trips will be used to relate curriculum to real-life situations.

1. Speakers and trips are being arranged in order to provide the students with a meaningful goal and positive role models.

2. Each teacher will coordinate speakers and field trips to correspond with selected projects.
a. Third grade: --understand the value and purpose of money
*speaker
*trip to a bank
--write money amounts numerically
*use a checkbook
--make change
*trip to McDonald's
*run the school store for a day
b. Sixth grade: --poetry
*speaker

--myths
*speaker
--novel
*trip to a forest preserve

c. Tenth grade: --novel
*speaker
--play
*speaker
--short stories
*trip to see actors perform short stories

Methods of Assessment

The problem of low motivation will be documented by student surveys, teacher journal entries, and homework checklists. Student surveys will be administered within the first two weeks of school to determine their homework habits and to identify factors which contribute to lack of homework completion. Teacher journal entries will focus on a select group of students, documenting their class participation. Teachers will keep a homework checklist to record students' pattern of homework completion. These same assessment tools will be administered at the end of a twelve week period to determine the effects of the intervention.

Chapter 4

PROJECT RESULTS

Historical Description of Intervention

The objective of this project was to improve students' motivation to learn through project-based learning, supplemented by field trips and speakers. Cooperative groups were implemented based on students' strongest multiple intelligences in order to further increase their motivation in learning.

The third graders were originally going to be grouped based on their strongest multiple intelligence according to their responses to a questionnaire, but since the students are mentally challenged, the responses on their questionnaires were invalid. The third graders under study are enrolled in a district that is currently being sued for discrimination. Due to this lawsuit, certain guidelines for creating groups had to be followed, keeping the boy/girl and minority/majority counts as even as possible. In the summer of 1995, units and projects were developed according to the students' curricular needs, as stated on their Individual Education Plan (IEP). According to the students' IEP's, they all needed help in understanding the concept of money. Some projects that were developed included using a checkbook and running the school store for a day. Due to the students' lack of cognitive ability to successfully use a checkbook, an alternate activity was incorporated into the unit. This activity involved adding spelling words related to money into their spelling lists each week.

To relate money to real-life, a field trip to a bank was originally planned; however, due to limited funding available to the school, the trip was canceled. Instead, an employee from a bank came to speak in order to help the students understand the value and purpose of money. Earlier plans included a trip to McDonald's to help students learn how to make change. Again, due to limited funding and lack of administrative support, this trip was canceled. In its place, the students estimated how much their meals would cost and how much change they would receive. An aid was sent to McDonald's to buy their food and brought back their change.

The sixth grade students were surveyed to identify their personal strengths in the area of multiple intelligences. The students were then placed into cooperative groups based on a common area of strength; for example, students who were strong in the bodily/kinesthetic intelligence all worked together. In the summer of 1995, the researchers worked together to develop units that would incorporate the multiple intelligences. The sixth grade students were originally going to study a novel, myths, and poetry. Due to a lack of speakers and a change in the curriculum, the sixth grade students focused on a biography rather than myths, and a play rather than poetry. The cooperative groups were formed based on students' multiple intelligences. The groups were then asked to choose a project that related to their area of strength. Students were assigned roles--Recorder, Gopher, Checker, and Speaker--which they rotated each day. The students analyzed the plot, setting, theme, characters, and figures of speech of the novel, biography, and play through their projects. For example, one group of bodily/kinesthetic learners created dioramas showing the plot, setting, theme, characters, and figures of speech from the novel. Other projects completed by the groups included murals, collages, skits, posters, bulletin boards, and oral book talks. Students presented projects to the class. Students were given a rubric at the beginning of the project to use as a guideline, and this same rubric was then used to assess their final product.

The researchers tried to tie in speakers and field trips to help students relate their learning to real life situations. After reading the novel *Where the Red Fern Grows*, the sixth grade students took a field trip to a forest preserve because the setting of the story is a forest. Also, throughout the novel the main character tracked and hunted animals. The students experienced tracking animals in the forest. When the sixth graders finished their biographies, they took a field trip to a nursing home in order to interview the residents and write biographies on them. Finally, after the sixth graders read a play, they watched a video of the play being performed live.

At the high school level as well, cooperative groups were formed based on students' multiple intelligences. Before school began in the fall, three separate units were selected from the English 10 curriculum for which projects were developed in conjunction with the multiple intelligences. At the start of the year, parents of students from one English 10 class were informed that their son/daughter would be participating in projects based on the multiple intelligence theory during the semester. Students were given a survey to assess their strongest multiple intelligence and were instructed in the multiple intelligence theory. Then students were offered several possible projects from which to choose, all of which were related to the novel under study, *A Separate Peace*. The projects were identified by the intelligences that they would require (See Appendix D) and students were told to select one that corresponded with one of their strongest intelligences. Once students selected a project, they were grouped either with others who chose the same topic or with others who shared some of the same intelligences. Students then met with their assigned cooperative groups three times in order to brainstorm and create rubrics for their projects. While in cooperative groups, they were asked to complete metacognitive exercises such as a student self-evaluation form. Students were assigned specific roles--Recorder, Materials/Metacognitive person, Taskmaster, and Reporter--which they rotated each day. After creating their projects, students presented them to the class. Students were given a cooperative grade and an individual grade on

their projects. A similar procedure was followed for projects related to a short story unit. In the original plan, projects were to be included in a unit on *Julius Caesar* as well, but, due to time constraints, these projects were not implemented.

As an adjunct to the projects and as a "link" to "real life," speakers and a field trip were arranged to coordinate with the units under study. For the unit on *A Separate Peace*, two retired high school teachers who were directly (and indirectly) involved in World War II were invited to speak to the targeted English 10 class. The speakers were married to each other shortly after he served in the Air Force on an airbomber. While he was overseas, she worked in a factory which manufactured the artillery for airbombers. Since the novel takes place during WWII, the couple's presentation was appropriate and instrumental in giving the students insight into life during the war. In conjunction with the short stories unit, students went on a field trip to see a live production of five short stories performed by a national traveling acting troupe. The troupe performed selections from Poe, Saki, Daohl, and O'Henry. The Saki selection was one which the students had read as a requirement of the English 10 curriculum. Lastly, an actor from a local state university was asked to speak to the high schoolers on his interpretation of *Julius Caesar*, as he had played one of the main characters in the college production, and to add his expertise on Shakespeare. However, due to some unforeseen obligations, he was unable to come to the high school.

Presentation and Analysis of Results

In order to assess the effects of project-based learning and of relating curriculum to real-life situations, a homework checklist, student survey, and teacher journal were used.

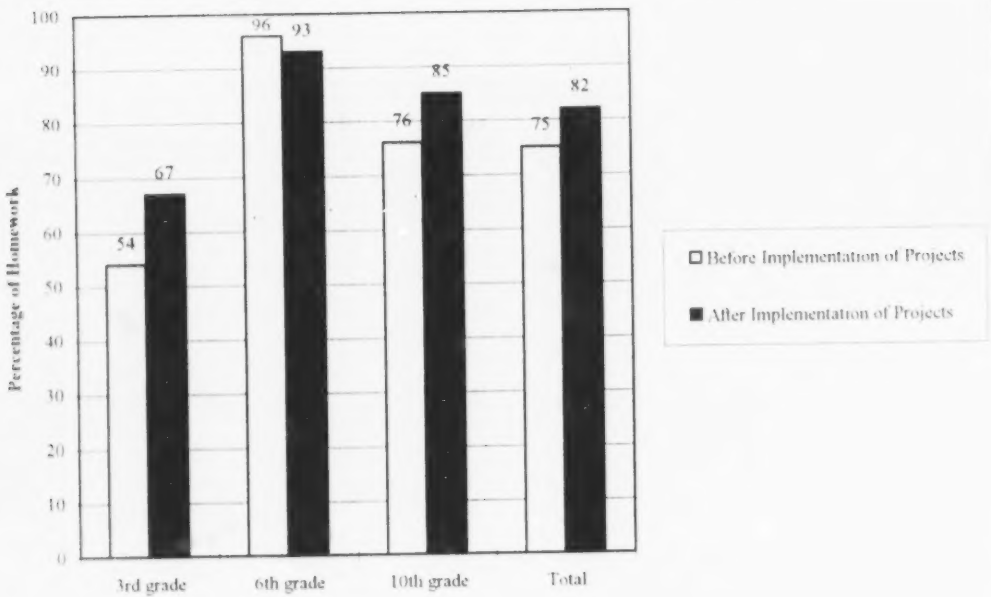

Figure 6
Amount of Homework Students Complete Daily

The intervention appears to have had a positive effect on students' motivation for completion of homework. Overall, the students improved their homework completion by seven percent, with the largest improvement in the third grade class. The sixth graders had a slight decrease of three percent, while the tenth graders had an increase of nine percent.

The third grade students unanimously agreed that they became more interested in learning about money, knowing that they would take a trip to McDonald's at the end of the unit. When asked why the trip to McDonald's helped them become more interested in learning about money, some of the students made responses such as: "We got to spend our own money;" and "We got to keep the change that was left over." All of the third grade students also stated that working with the school store helped them become more

interested in learning about money. The majority of students stated that they liked to help count the change and give it back to the customer.

All of the third grade students remarked that having a speaker from a bank come and talk to the class helped increase their interest in learning about money. They remarked that they learned several new facts: how to put money into and take it out of the bank; how banks keep the money safe, so no one steals it; how money is made, and that people can make money at a bank.

The sixth grade students enjoyed doing the projects because they like to draw and build. Several of the students stated that the projects were fun to do. The majority of the students felt that the trip to the forest preserve added to their enjoyment of the novel *Where the Red Fern Grows*. They felt it helped them better understand the setting of the story. One student said that on the field trip he felt as if he was the main character in the novel. Another student stated, "I enjoyed the field trip because I got to see and touch what we were learning about in class." One student enjoyed exploring the woods, and he stated that he felt as if he was hunting like the main character of the novel.

The majority of the sixth grade students felt that the field trip to the nursing home was worthwhile. Interviewing the nursing home residents increased their interest in biographies. The students enjoyed writing biographies on these residents because they were given the opportunity to actually meet them. Many of the students were enthused to learn about these people's lives and then to write about them. They were also excited about being able to share their papers with the person whom they interviewed.

The high schoolers' response to whether or not projects helped to motivate them was less enthusiastic than anticipated. When pressed to explain why they did not like the projects, several of them complained because they were unable to choose the project that interested them, but instead were forced to select one which fell under the category of their strongest intelligence. Another factor which contributed to their discontent with the projects, was that they were unable to choose with whom they worked in their groups.

Some students who viewed the projects favorably, however, argued that they enjoyed using their specific intelligence. Comments included: "I enjoyed putting music to stories because music is a major factor in my life;" "I like the ones that you act out because they're fun;" and one student who differed with the aforementioned students, stated, "I like the group projects because I get to work with my friends."

Unlike the divided opinions in regard to the projects, the tenth graders unanimously agreed that the field trip to see five short stories performed increased their interest in short stories themselves. The students commented that viewing the stories performed added to their understanding and enjoyment. Some added that seeing the performances was better than reading the stories. A few said that the performances made the stories "more real" and "brought everything to life." Although the tenth graders were not completely united in the belief that the speakers were interesting, the majority did enjoy the presentation. Many commented that the speakers helped them to understand what was happening during WWII, the setting of the novel which they studied. They all agreed that the speakers added to their appreciation of the novel. Several commented that the speakers helped them to understand the hardships of living during the war. The speakers' stories gave the students insight into the issues and problems that the characters in the novel experienced. (All student responses are presented in Figures 7 and 8.)

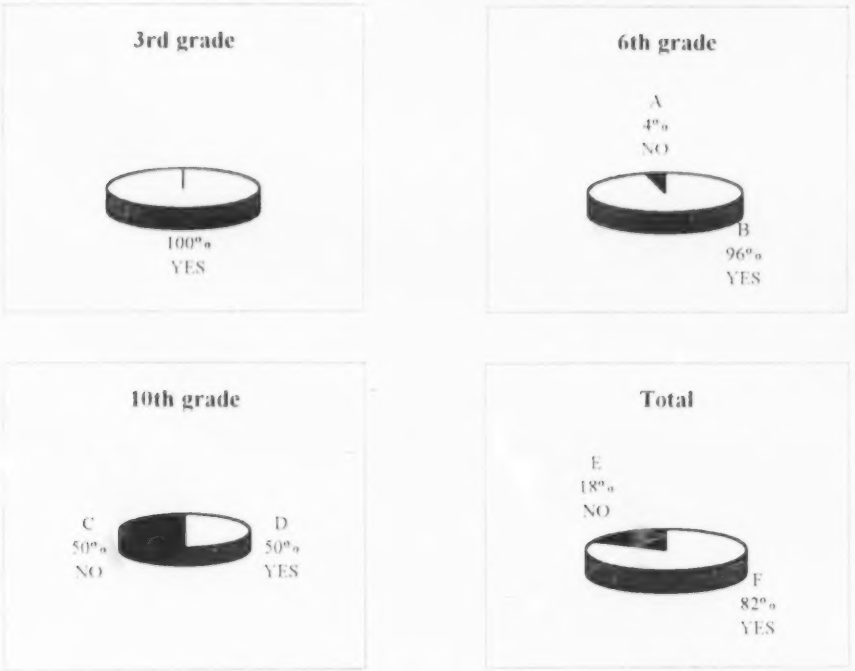

Figure 7

Motivation of Students by Project - Based Learning

Do you think projects helped to motivate you?

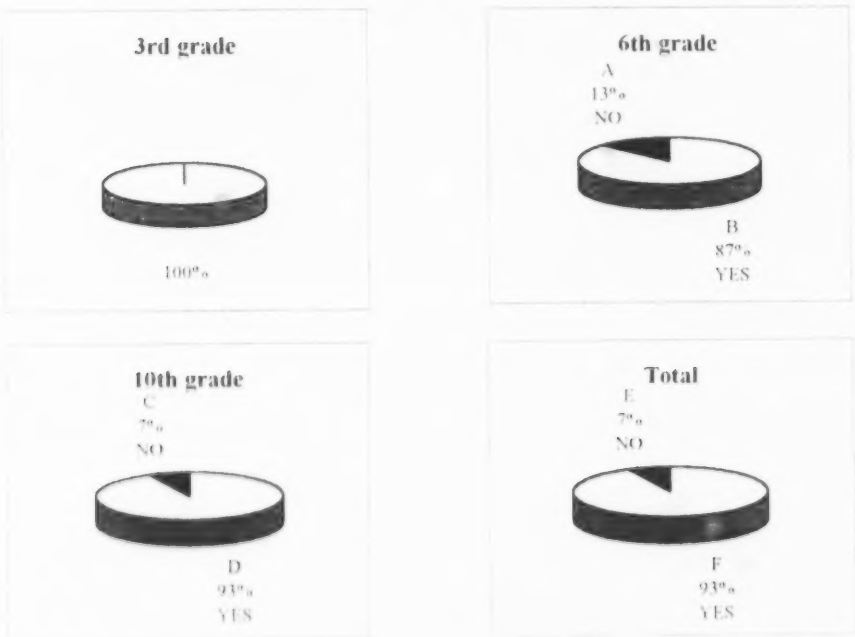

Figure 8

Motivation of Students by Speakers and Field Trips

Do you think the field trip(s) and speaker(s) increased your interest in the topics studied?

Conclusions and Recommendations

Based on the presentation and analysis of the data on students' motivation, the third grade students showed improvement in their motivation for schoolwork. Due to the lack of validity of the multiple intelligence survey with this targeted class, the researcher concluded that hands-on manipulatives were the most effective means for meeting these students' needs. These hands-on manipulatives in conjunction with cooperative groups had a positive impact on students' confidence, therefore, improving their motivation to complete homework assignments. Also, the use of a guest speaker and "real-life" activities incorporated into the classroom had a positive effect on the students' motivation, as they never eagerly stop asking, "Is it time for math?"

Upon reflection on the sixth grade students' interviews, the researcher concluded that the projects were successful in motivating the students. The majority of the students felt that the projects were fun and interesting. Although there was an slight decrease in homework completion throughout the study, this change could be due to a number of other factors. The researcher felt that the timing of the data collection may have caused this decrease. The first data were collected during the first few weeks of school when enthusiasm was at its peak. The second data were collected at the end of the first semester immediately preceding a holiday break, a time when schoolwork is not high on students' priority lists. The field trips also helped them to better understand the topics studied. The field trips gave the students a real life connection to the material that they read.

According to the presentation and analysis of the data on homework checklists, the tenth grade students showed improvement in the area of motivation to complete their homework. They also showed an enthusiasm for the speakers and field trip and indicated overwhelmingly that the former implementations helped to increase their interest and understanding of the units under study. However, it appears that the projects that were introduced to correspond with the units did *not* offer motivation for the students. Instead,

- the projects appeared to have little or no effect in changing students' motivation to learn. It must be noted that these data may be unique to the particular class that was targeted for this study; the researcher implemented the same projects into two other tenth grade English classes and the reactions to the projects in these classes seemed to differ from the targeted class. Although no formal measures were given in order to assess the effect of the projects in these two classes, positive comments were expressed orally to the researcher, indicating that perhaps the make-up of students within the classroom had a noticeable impact on the results of the research. In general, the personality make-up of the targeted class consisted of many shy, reticent students who did not want to participate in class. In contrast, the other two tenth grade classes were more lively and eager to participate. One possible reason then that the targeted class did not respond more positively to project-based learning may be that the projects that were offered were more directed toward the bodily/kinesthetic learner, although measures were taken in order to try to minimize this discrepancy. Another possible reason that the students did not want to "stand out" from their peers by doing an exceptional job with their projects was that the project included a presentation to the class. Another factor that may have added to the students' lack of enthusiasm for the projects, as mentioned before, involves the fact that they often wanted to choose projects that were not included in their "strongest intelligence," and because they were required to select a project that met the above criteria, many of them grudgingly completed projects that were their second or third choice.

In conclusion, the researchers feel that project-based learning should be implemented at all levels of learning with a few modifications. Projects based on the multiple intelligence theory give students the opportunity to both learn the material and to be assessed through one of their strongest intelligences. The use of cooperative groups along with projects allows students to work with others on similar projects which in turn may help to give them more confidence in completing their task. Working in cooperative

groups motivates students because it allows them to share ideas and to receive immediate feedback from their peers. Guest speakers and field trips should be incorporated into the curriculum whenever possible. They provide the opportunity to relate their learning to real-life.

The researchers recommend a few modifications in order to enhance the effectiveness of project-based learning. First of all, the multiple intelligence survey that was used (See Appendix E) in order to assess students' strongest intelligence should at least be modified, and if possible, another means of assessing the students' intelligences should be employed in order to give a more accurate diagnosis. The researchers feel that some of the students were misdiagnosed; for example, one of the tenth graders who was extremely gifted in drawing did not score high in the visual/spatial area. Also the researcher of the targeted third grade class was unable to identify the students' strongest multiple intelligence because of the students' lack of comprehension of the survey questions. Secondly, the researchers recommend that more student choice be allowed in selecting the projects. Although the researchers intended to provide the students a choice for their projects, in some cases, this choice became controlled by the dictates of the researchers' action plan. When this occurred, students were forced to choose projects that they were not necessarily interested in, thus decreasing their motivation. In the future, the researchers would also provide various examples of work that exhibit different levels of quality, so that the students will have an example of a finished project; these examples would help to clarify teacher expectations for students' final products.

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Appendices

APPENDIX A

Student Survey

1. Rate on a scale of 1-6, with 1 being the first and 6 the last, the following items in order of what you do when you arrive home after school. Use the column on the **left**.

_____	Watch TV	_____
_____	Do Homework	_____
_____	Eat	_____
_____	Do Chores	_____
_____	Relax/Have fun	_____
_____	Work at a job	_____

2. In the 2nd column above, re-prioritize the list based on what you would **want** to do.

3. On average, how much time do you have to do homework? Circle one.

1 hr. or less 2-3 hours 3-4 hours 5 or more hours

4. Rate yourself in terms of how much of your homework you complete on a daily basis.

1/4 1/2 3/4 All

5. If you do not complete all of your homework, check the **most** important reason why you do not complete it.

_____ 1. I do not understand the directions.

_____ 2. I do not have enough time.

_____ 3. I did not feel like working on it.

_____ 4. It is too difficult.

APPENDIX B

Teacher Survey

1. Approximately what percentage of your students turn-in their homework?

25% 50% 75% 100%

2. In your opinion, what is the **main** reason students do not complete their homework? Check only one answer.

_____ 1. They do not understand the directions.

_____ 2. They do not have enough time.

_____ 3. They do not feel like completing their homework.

_____ 4. The homework is too difficult.

3. In your opinion, how much time would an average assignment that you give to your students take to complete?

15 min. or less 30 mins. 45 min. 60 min.or more

APPENDIX C

Teacher Journal Entries -- Sample

Third grade:	Student A	-looked at assignment, wouldn't even attempt it; when I asked him why he wasn't working, he said it was too hard and he put his head down the rest of the period
	Student B	-did not willingly participate; waited for someone/anyone else to do his work for/with him (Can't tell if lack of ability or ambition.)
	Student C	-is willing to participate; needs a lot of reassurance -hesitant to work w/o one-on-one help
Sixth grade:	Student D	-participated a little today -raised hand twice -complete homework -using time well to read
	Student E	-participated today -incomplete assignment -doesn't make good use of time to read
	Student F	-didn't participate -homework done -used time fairly well; talked some
Ninth grade:	Student G	-actively search for answers in text (small group) -volunteered info for one of questions; raised her hand -gave example for another
	Student H	-actively searching for answers in text (small group) -asked question for clarification of "anecdote" -when called upon, acted like didn't have a clue about answer & didn't seem interested in finding it either
	Student I	-recorder for small group -gives up easily when doesn't know answer right away -answered question but was inaccurate and didn't attempt to find answer

APPENDIX D

Sample Project List for Tenth Grade

1. Draw a comic book version of a scene from the novel. Include the action, characters, and setting. (**V/S, V/L**, M/L)

2. A diorama is a three-dimensional miniature scene. Choose a scene from the novel and construct a diorama of the setting. (**V/S, B/K**)

3. Compose a song based on your reading of the novel. Use lyrics, melody, and rhythm to reflect your feelings about the novel. (**M/R**)

4. Suggest films, books, television shows, and music from this time period that a character in the novel would enjoy. Explain **in detail** why you think the character would enjoy them. (**Intra, V/L, M/R**)

5. Select a scene from the novel that would make a good play. Work with a group of students to prepare the scene. Cast parts and design scenery and costumes carefully. (**B/K, V/L, Inter**) **##**

6. Design an advertising campaign for a film version of the book. Include magazine, radio, and television commercials in your campaign. (**V/L, B/K**, Inter, M/R) **##**

7. Find pictures in magazines and newspapers that remind you of one of the characters in the novel. Use the photos and other art materials to make a collage that reflects the character you chose. Include a written explanation of the reasons why you selected the photos/pictures that you did.(**V/S, V/L**)

8. Symbols play a large role in this novel. Create a "story map" drawing the major symbols with an explanation of each symbol's significance in the novel. (**M/L, V/S**, V/L)

Key for multiple intelligences:

1. V/L=Verbal/Linguistic
2. M/R=Musical/Rhythmic
3. M/L=Mathematical/Logical
4. V/S=Visual/Spatial
5. B/K=Bodily/Kinesthetic
6. Intra=Intrapersonal
7. Inter=Interpersonal

**Note: The abbreviations in bold represent the primary intelligence.
May be done as group project

APPENDIX E

Multiple Intelligence Test

This quiz will help you identify your areas of strongest intelligence. Read each statement. If it expresses some characteristic of yours and sounds true for the most part, jot down a "T." If it doesn't, mark an "F." If the statement is sometimes true, sometimes false, leave it blank.

1. _____ I'd rather draw a map than give someone verbal directions.
2. _____ If I am angry or happy, I usually know exactly why.
3. _____ If can play (or used to play) a musical instrument.
4. _____ I can associate music with my moods.
5. _____ I can add or multiply quickly in my head.
6. _____ I can help a friend sort out strong feelings because I successfully deal with similar feelings myself.
7. _____ I like to work with calculators and computers.
8. _____ I pick up new dance steps fast.
9. _____ It's easy for me to say what I think in an argument or debate.
10. _____ I enjoy a good lecture, speech or sermon.
11. _____ I always know north from south no matter where I am.
12. _____ I like to gather together groups of people for parties or special events.
13. _____ Life seems empty without music.
14. _____ I always understand the drawings that come with new gadgets or appliances.
15. _____ I like to work puzzles and play games.
16. _____ Learning to ride a bike (or skates) was easy.
17. _____ I am irritated when I hear an argument or statement that sounds illogical.
18. _____ I can convince other people to follow my plans.
19. _____ My sense of balance and coordination is good.
20. _____ I often see patterns and relationships between numbers faster and easier than others.
21. _____ I enjoy building models (or sculpting).
22. _____ I'm good at finding the fine points of word meanings.
23. _____ I can look at an object one way and see it turned sideways or backwards just as easily.
24. _____ I often connect a piece of music with some event in my life.
25. _____ I like to work with numbers and figures.
26. _____ I like to sit quietly and reflect on my inner feelings.
27. _____ Just looking at shapes of buildings and structures is pleasurable to me.
28. _____ I like to hum, whistle and sing in the shower or when I'm alone.
29. _____ I'm good at athletics.
30. _____ I enjoy writing detailed letters to friends.
31. _____ I'm usually aware of the expression on my face.
32. _____ I'm sensitive to the expressions on other people's faces.

33_____ I stay "in touch" with my moods. I have no trouble identifying them.
34_____ I am sensitive to the moods of others.
35_____ I have a good sense of what others think of me.

SCORING SHEET

Circle each item which you marked as "True." Add your totals. A total of four in any of the categories indicates strong ability.

A	B	C	D	E	F	G
9	5	1	8	3	2	12
10	7	11	16	4	6	18
17	15	14	19	13	26	32
22	20	23	21	24	31	34
30	25	27	29	28	33	35
Totals						
___	___	___	___	___	___	___

A=Verbal/Linguistic intelligence

B=Logical/Mathematical intelligence

C=Visual/Spatial intelligence

D=Bodily/Kinesthetic intelligence

E=Musical/Rhythmic intelligence

F=Intrapersonal intelligence

G=Interpersonal intelligence